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EXAMINER	
FIELDS, DORON D	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/509,809	WILLETT, PAUL EATON	
	Examiner	Art Unit	
	DORON D. FIELDS	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 September 2004 and 15 May 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

Status of Claims

1. This non-final action is in reply to the arguments/remarks and amendment filed on 15 May 2008.

2. Claims 1-7 and 9-25 have been amended.

3. Claim 8 has been canceled.

4. Claims 1-7 and 9-26 are currently pending and have been examined.

Response to Amendments

5. Applicant's amendment in response to drawings objection is sufficient to overcome the abstract objection.

6. Applicant's amendment in response to abstract objection is sufficient to overcome the abstract objection.

7. Applicant's amendment in response to 35 U.S.C. § 112 rejection regarding "full" batches is sufficient to overcome the claim rejection.

8. Applicant's amendment in response to 35 U.S.C. § 112 rejection regarding "calculating total weight for bakery products is sufficient to overcome the claim rejection.

9. Applicant's amendment in response to 35 U.S.C. § 112 rejection regarding "the batches" is sufficient to overcome the claim rejection.

10. Applicant's amendment in response to 35 U.S.C. § 112 rejection regarding referencing the wrong claim in claim 18 is sufficient to overcome the claim rejection.

11. Applicant's amendment in response to 35 U.S.C. § 101 rejection regarding claims 12-17 and 21-26 is sufficient to overcome the claim rejection.

Response to Arguments

12. Applicant's arguments with respect to claim1-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly

claiming the subject matter which the applicant regards as his invention.

14. Claims 3-5, 14-18, and 23-26 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

15. Claim 18 recites the limitation "a computer-readable storage medium ... containing … program instructions according to claim 12". Examiner suggest that the limitation be rewritten as 'a computer-readable storage medium ... containing … program instructions, which when executed perform the steps of claim 12'.

16. Claim 3 recites the limitation "the run schedule" and "the schedule" in its second line. There is insufficient antecedent basis for this limitation in the claim.

17. Claim 4 recites the limitation "the schedule" in its third line. There is insufficient antecedent basis for this limitation in the claim.

18. Claim 5 recites the limitation "the schedule" in its second line. There is insufficient antecedent basis for this limitation in the claim.

19. Claim 14 recites the limitation "the schedule" in its fourth line. There is insufficient antecedent basis for this limitation in the claim.

Claims 15-17 depend from claim 14 and are similarly deficient.

20. Claim 23 recites the limitation "the schedule" in its third line. There is insufficient antecedent basis for this limitation in the claim.

Claims 24-26 depend from claim 14 and are similarly deficient.

Claim Rejections - 35 USC § 101

21. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

22. Claims 1-7 and 9-11 are rejected under 35 U.S.C. 101 based on Supreme Court precedent, and recent Federal Circuit decisions. For a process to be patentable subject matter under § 101 the process must (1) be tied to another statutory class of invention (such as a particular apparatus) or (2) transform

subject matter to a different state or thing. See Diamond v. Diehr, 450 US 175, 184 (1981); Parker v Flook, 437 US 584, 588 n9 (1978); Gottschalk v. Benson, 409 U.S. 63, 70 (1972); Cochrane v. Deener, 94 US 780, 787-88 (1876). If neither of these requirements is met by the claim, the method is not a patent eligible process. To qualify under § 101 as a statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

23. In the present case, claim 1 recites: "*A computer implemented method of producing a production run schedule … determining ...; organizing ...; calculating …combining …; and displaying ... on a computer display.*" However, recitation of "*A computer implemented method*" in the preamble and "*displaying … on a computer display*" is not a sufficient tie of the method (a process claim) to a particular apparatus is not a sufficient tie of the method (a process claim) to a particular apparatus. A broadest reasonable interpretation of the present claim is that any and all steps could be practiced by hand, by mental steps, or by a human using the computer in some nominal fashion, such as entering or displaying data or using the computer as a simple calculator. Lacking a sufficient tie to a particular apparatus, claim 1 and its dependents 2-7 and 9-11 are nonstatutory.

Appropriate amendment is required.

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

25. Claim 1 rejected under 35 U.S.C. 103(a) as being unpatentable over Walser et al (US-PAT-NO: US 6,560,501 B1), in view of Bush et al. (Pepperidge Farm's "Project Freshness." Integrated process controls plus automated ingredient and package handling cut waste, save time and enable paired

Lakeland, Fla., bread and biscuit plants to bake and ship the same day; Prepared Foods , v158 , n2 , p122(3); Feb 1989), and further in view of Lowry et al (PGPUB-NO: US 2002/0001649 A1).

Claim 1:

Wasler, as shown, discloses the following limitations:

A computer-implemented method of producing a production run schedule of products, the method including the steps of:

- *in response to determining the number and type products to be produced, determining the type and* size *of each product* (see at least column 1, lines 27-32: "Computer implemented planning and scheduling systems are often used for manufacturing and other supply chain planning functions. In general, such systems can model the manufacturing and related environments and provide plans or schedules for producing items to fulfill consumer demand within the constraints of the environment.", column 1, lines 54-59: "According to one embodiment of the present invention, a computer-based system for aggregating and scheduling product batches includes a batch aggregation engine that allocates one or more product demands to one or more product batches having suggested sizes and suggested starting times.", column 4, lines 31-32: "Input 16 may also include one or more demands for a product …", and Figures 3 and 4 and associated text. Wasler discloses determining a demand for a product and provides an example in which a demand for paints (color and size/volume) is determined.)*;*
- *organizing each product into a group according to the type of the product* (see at least column 1, lines 27-32: "Computer implemented planning and scheduling systems are often used for manufacturing and other supply chain planning functions. In general, such systems can model the manufacturing and related environments and provide plans or schedules for producing items to fulfill consumer demand within the constraints of the environment.", column 1, lines 54-59: "According to one embodiment of the present invention, a computer-based system for aggregating and scheduling product batches includes a batch aggregation engine that allocates one or more product demands to one or more product batches having suggested sizes and suggested starting times.", column 4, lines 31-32: "Input 16 may also include one or more

demands for a product…", and Figures 3 and 4 and associated text. Wasler discloses determining demands for types of products and provides an example in which the demand consists of multiple colors of paints)*;*

- *calculating a total* volume *for each product to be produced* (see at least column 1, lines 27-32: "Computer implemented planning and scheduling systems are often used for manufacturing and other supply chain planning functions. In general, such systems can model the manufacturing and related environments and provide plans or schedules for producing items to fulfill consumer demand within the constraints of the environment.", column 1, lines 54-59: "According to one embodiment of the present invention, a computer-based system for aggregating and scheduling product batches includes a batch aggregation engine that allocates one or more product demands to one or more product batches having suggested sizes and suggested starting times.", column 4, lines 31-32: "Input 16 may also include one or more demands for a product …", column 13, lines 38-40: "Batch aggregation engine 20 outputs the suggested size and time of batch 50 to scheduling engine 30 …", and Figures 3 and 4 and associated text. Wasler discloses determining the total size of product to be produced and provides an example of producing paint batches of varying sizes/volumes (weight) to meet the demand.)*;*
- *calculating the number of full batches that can be produced of each type of product, a full batch being based on consumption* (see at least abstract: "A computer-based system (10) for aggregating and scheduling product batches (50) includes a batch aggregation engine (20) that allocates one or more product demands (40) to one or more product batches (50) having suggested sizes and suggested starting times.", column 1, lines 14-19" The manufacture of products or other items commonly involves a multi-stage process that includes the use of equipment of various capacities. In such a multi-stage, variable equipment size process, product or end-item demands are often aggregated or split into manufacturing batches in order to fit the available equipment sizes.", column 2, lines 57-59: "The present invention also reduces the quantity of work-in-process, minimizes end-item inventory, and reduces product shortages and late deliveries.", column 6, lines 23-27: "As an example, penalties 36 may include, but are not

limited to, a penalty for deviating from a certain scheduled batch size to encourage the full use of one or more pieces of production equipment over a specified time period", column 13, lines 38-40: "Batch aggregation engine 20 outputs the suggested size and time of batch 50 to scheduling engine 30 …", and Figures 3 and 4 and associated text. Wasler discloses provides an example in which batches are created that use the entire capacity of their tanks as well as minimize product shortages and product inventories.)*;*

- *calculating a* volume *that cannot be produced in a full batch* (see at least abstract: "A computer-based system (10) for aggregating and scheduling product batches (50) includes a batch aggregation engine (20) that allocates one or more product demands (40) to one or more product batches (50) having suggested sizes and suggested starting times.", column 3, lines 35-43: "All forms of the term "aggregate" should be interpreted to include splitting or dividing a product demand between multiple batches, as well as combining product demands into a batch. In one embodiment, as described more fully below, batch aggregation engine 20 uses mixed-integer linear programming (MILP) to optimize the aggregation of product demands into batches to meet various manufacturing, shipping, customer or other related criteria.", column 13, lines 38-40: "Batch aggregation engine 20 outputs the suggested size and time of batch 50 to scheduling engine 30 …", and Figures 3 and 4 and associated text. Wasler discloses determining sizes of full, non-full, split and combined batches.);
- *combining the respective weights of products of the same type that cannot be produced in a full batch into combined batches* (see at least abstract: "A computer-based system (10) for aggregating and scheduling product batches (50) includes a batch aggregation engine (20) that allocates one or more product demands (40) to one or more product batches (50) having suggested sizes and suggested starting times." and column 3, lines 35-43: "All forms of the term "aggregate" should be interpreted to include splitting or dividing a product demand between multiple batches, as well as combining product demands into a batch. In one embodiment, as described more fully below, batch aggregation engine 20 uses mixed-integer linear programming (MILP) to optimize the aggregation of product demands into batches to meet various

manufacturing, shipping, customer or other related criteria.”)*; and*

- *displaying the full and combined batches on a computer display to permit subsequent amendment* (see at least Fig 1, item 18 – solution output, and associated text).

While Wasler teaches batch scheduling of products, Wasler does not specifically disclose the baking industry and the following limitations:

A computer-implemented method of producing a production run schedule of bakery products, the method including the steps of:

- *in response to determining the number and type of bakery products to be produced determining the dough type and weight of dough of each bakery product;*
- *organizing each bakery product into a group according to the dough type of the bakery product;*
- *calculating a total weight of dough for each type of bakery product to be produced;*
- *calculating the number of full batches that can be produced of each type of bakery product, a full batch being based on the consumption of whole bags of flour;*
- *calculating a weight of dough for each bakery product that cannot be produced in a full batch;*
- *combining the respective weights of dough for bakery products of the same dough type that cannot be produced in a full batch into combined batches;*

Walser does not disclose batch production and scheduling of bakery products. But Bush, as shown does:

- *in response to determining the number and type of bakery products to be produced, determining the dough type and weight of dough of each bakery product* (see at least page 3, paragraph 10: “High-speed mixers knead the dough until the action imparts a predetermined amount of energy programmed for each recipe. The mixers cycle automatically; each produces the number of doughs required each day for each product.”, page 3, paragraph 6: “Scalers located directly over the mixer, however, control precisely the quantity of important liquid ingredients.”, page 3, paragraph 7: “Four to six minor ingredients each feed a central scale and pressure vessel, that conveys those ingredients to a penumatic blender.”, page 3, paragraph 9: “A central scaling system integrated with the blending system keeps three batches in the works. At any given time, one is scaled, one is blended, and one awaits the mixer.”, and page 4, paragraph 1: “same high

technology prepares doughs for the biscuit plant's cookie and cracker ovens, which, like their counterparts on the bread side, are monitored by an array of sensors and governed by programmable logic controllers.”);

- *organizing each bakery product into a group according to the dough type of the bakery product* (see at least page 3, paragraph 9: ”Separate blenders feed the bread, roll and hearth lines”, and page 4, paragraph 1: “same high technology prepares doughs for the biscuit plant's cookie and cracker ovens, which, like their counterparts on the bread side, are monitored by an array of sensors and governed by programmable logic controllers.”);
- *consumption of flour* (see at least page 3, paragraph 1: “If a load of flour were rejected, for example, the plant could not finish the day without a replacement.”)

Walser discloses manufacturing planning and optimization by means of batch aggregation and scheduling. Walser’s allows demand for a product or other item to be aggregated into or split between batches and to be scheduled and discloses product types and sizes. Walser does not specifically disclose a production schedule of bakery products. Bush, however, discloses batch production of bakery products and associates bread types with dough, flour, and weight. It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the aggregation and scheduling system and method of Walser to the bakery batch production of Bush in order to more effectively meet customer demand. Per Walser, column 6 lines 64-7 through column 7 line 1-5: “FIG. 3 illustrates an exemplary workflow 100 used in the manufacture, packaging, and shipping of paint, to which the collaborative batch aggregation and scheduling process 12 of the present invention may be applied. Although the example described below involves the manufacture, packaging, and shipping of paint, any other appropriate workflow involving the aggregation of any product, item, or component into batches may also be optimized using the present invention.” In addition, Per Bush, “Batch sizes are no problem, says bakery operations manager Gary Tarr. "I can run a different batch size on a few seconds notice."” (Page 3, paragraph 8) and “Lakeland is truly integrated. In the host mainframe are stored all the formulas and process parameters to produce 24 different bread varieties, and eventually over 50 cookie variations daily. The same system receives orders real time from Pepperidge Farm's distributors, and downloads

that information plus process instructions to a production microcomputer controlling the plant floor." (Page 4, paragraph 3)

Wasler, in view of Bush, does not disclose the following limitations, but Lowery does:

- *calculating a total weight of dough for each bakery product to be produced* (see at least abstract: "A method for automatically forming dough-based products, such as doughnuts involves pressurizing a tank containing dough. The dough is extruded to form a flight of dough-based products. The weight of the flight of dough-based products is measured. The weight data is transmitted to a computer. The measured weight is compared to a predetermined weight stored in the computer memory.");

It would have been obvious to one of ordinary skill in the art at the time of the invention to calculate the total weight of dough for each bakery product to be produced, as done by Lowery, and provide the information to the batch aggregation system of Wasler in view of Bush, as doing so more effectively quantifies the demand of product to be produced in order to meet client needs.

Claim 2:

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 1 as shown above. Furthermore, Wasler discloses the following limitations:

- *wherein the combined batches are full batches* (see at least column 1, lines 54-59: "According to one embodiment of the present invention, a computer-based system for aggregating and scheduling product batches includes a batch aggregation engine that allocates one or more product demands to one or more product batches having suggested sizes and suggested starting times." and column 2, lines 41-56: "The systems and methods of the present invention provide a number of important technical advantages. The present invention allows demands for a product or other item to be aggregated into or split between batches, while also allowing the batches to be scheduled in a manner that increases factory throughput and reduces manufacturing costs. According to the decisions and associated feedback they communicate to one another, the batch aggregation engine and scheduling engine collaborate to provide a suitable aggregation and scheduling solution. The present invention is capable of aggregating batches of variable size

across multiple production stages and computing material flows between these stages. By allowing for variable batch sizes, the present invention enables the use of a variety of equipment sizes in the manufacturing process and optimizes the use of each of these equipment sizes.").

Claim 3:

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 1 as shown above. Furthermore, Wasler discloses the following limitations:

- *wherein the run schedule is amendable to ensure each batch in the schedule is a full batch* (See at least Fig 1, item 16 - user and/or automated input and item 18 – solution output and abstract: "The batch aggregation engine (20) and the scheduling engine (30) may communicate their respective outputs (22, 32) to each other in an iterative cycle until they have collaboratively reached a sufficiently optimal batch aggregation and scheduling solution or until a predetermined number of iterations has been reached.").

Claim 4:

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 3 as shown above. Furthermore, Wasler discloses the following limitations:

- *wherein the number of products is amendable to ensure that each batch in the schedule is a full batch* (See at least Fig 1, item 16 - user and/or automated input and item 18 – solution output and abstract: "A computer-based system (10) for aggregating and scheduling product batches (50) includes a batch aggregation engine (20) that allocates one or more product demands (40) to one or more product batches (50) having suggested sizes and suggested starting times.").

Claim 5:

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 2 as shown above. Furthermore, Wasler discloses the following limitations:

- *wherein the sequence of batches in the schedule is amendable* (See at least Fig 1, item 16 - user and/or automated input and item 18 – solution output, Figure 2 and associated text, and abstract: "A computer-based system (10) for aggregating and scheduling product batches (50) includes a batch aggregation engine (20) that allocates one or more product demands (40) to one or more

product batches (50) having suggested sizes and suggested starting times.". Wasler discloses orders to be fulfilled at a particular time and batches with suggested start time to meet those demands.).

Claim 6:

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 1 as shown above. Furthermore, Wasler discloses the following limitations:

- *wherein the products of the same type are arranged in consecutive batches* (See at least Fig 1, item 16 - user and/or automated input and item 18 – solution output, Figure 2 and associated text, and abstract: "A computer-based system (10) for aggregating and scheduling product batches (50) includes a batch aggregation engine (20) that allocates one or more product demands (40) to one or more product batches (50) having suggested sizes and suggested starting times." Walser discloses placing demands (products type and times) and producing and scheduling batches to meet those demands.).

Claim 7:

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 1 as shown above. Furthermore, Lowry discloses the following limitations:

- *wherein the number of bakery products is multiplied by a weight of dough required to form a single bakery product, thereby calculating a total weight of dough for each bakery product* (see at least abstract: "A method for automatically forming dough-based products, such as doughnuts involves pressurizing a tank containing dough. The dough is extruded to form a flight of dough-based products. The weight of the flight of dough-based products is measured. The weight data is transmitted to a computer. The measured weight is compared to a predetermined weight stored in the computer memory." and page 5, paragraph 0062: "The user interface display 55 may display one or more parameters for an operator of the apparatus to view. Examples of such parameters that may be displayed include, without limitation: (1) the target product weight (i.e., a predetermined weight);").

Official Notice is taken that (number of units of target product) x (weight of an individual unit of target

product) = total weight of target product is old and well known to those of ordinary skill in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to calculate the total weight of dough for each bakery product to be produced, as done by Lowery, and provide the information to the batch aggregation system of Wasler in view of Bush, as doing so quantifies the demand of product to be produced in order to meet client needs.

Claim 9:

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 1 as shown above. Furthermore, Wasler discloses the following limitations:

- *wherein the step of displaying the full and combined batches involves displaying the batches graphically* (see at least Fig1, item 14 – computer, item 18 – solution output, Fig 3, Fig 4, and associated text).

Claim 10:

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 9 as shown above. Furthermore, Wasler discloses the following limitations:

- *wherein the graphical display of batches includes graphical identification of products forming each displayed batch* (see at least Fig1, item 14 – computer, item 18 – solution output, Fig 3, Fig 4, and associated text).

Claims 12-18 and 21-26:

Claims 12-18 and 21-26 recite a system and computer program product for performing the methods of claims 1, 2, 5, 9, 10 and 11 (claimed relationship displayed in Table 1 below) as above, and are similarly rejected for reasons given above for the respective claims and claim elements and because Walser teaches a computer-implemented system.

Limitations in …	Presented in …
Claim 12	Claim 1
Claim 13	Claim 2
Claim 14	Claim 5

Limitations in …	Presented in …
Claim 15	Claim 9
Claim 16	Claim 10
Claim 17	Claim 11
Claim 18	Claim 1
Claim 21	Claim 1
Claim 22	Claim 2
Claim 23	Claim 5
Claim 24	Claim 9
Claim 25	Claim 10
Claim 26	Claim 11

Table 1

Claim 19:

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 18 as shown above. Furthermore, Bush discloses the following limitations:

- *wherein the baking system also includes baking machinery linked to the computer for control thereby* (see at least page 1, paragraph1: "Integrated process controls plus automated ingredient and package handling cut waste, save time and enable paired Lakeland, Fla., bread and biscuit plants to bake and ship the same day. The recipe was for computer integrated manufacturing, and Pepperidge Farm project engineer David Watson was the chef." and page 4, paragraphs 2 and 3: "Lakeland is truly integrated. In the host mainframe are stored all the formulas and process parameters to produce 24 different bread varieties, and eventually over 50 cookie variations daily. The same system receives orders real time from Pepperidge Farm's distributors, and downloads that information plus process instructions to a production microcomputer controlling the plant floor. Several PLCs are dedicated to each production line, to control oven times and temperatures, proofing times and temperatures, conveyor speeds and changeover times--in short, every aspect of bakery production. The same PLCs also capture specific process data for

relay back to the host computer. The entire system communicates using the same protocol; complete interconnectivity assures compatibility throughout the plant.").

It would have been obvious to one skilled in the art at the time of the invention to incorporate the baking machinery disclosed by Bush with the computerized batch aggregation and scheduling system of Walser because, as stated by Bush, page 3, paragraphs 4-5: "Accurately controlling and monitoring entire processes also makes maintenance predictable and reduces waste. Because Lakeland is computerized and integrated--each system is linked to a host computer—troubleshooting time is saved and routine maintenance parts ordered "as needed." Consistent operations yield consistent quality. That goal of computer integrated manufacturing is ably demonstrated in Lakeland's automatic bulk handling system.")

Claim 20:

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 19 as shown above. Furthermore, Bush discloses the following limitations:

- *wherein the baking machinery provides feedback to the program* (page 4, paragraphs 2 and 3: "Lakeland is truly integrated. In the host mainframe are stored all the formulas and process parameters to produce 24 different bread varieties, and eventually over 50 cookie variations daily. The same system receives orders real time from Pepperidge Farm's distributors, and downloads that information plus process instructions to a production microcomputer controlling the plant floor. Several PLCs are dedicated to each production line, to control oven times and temperatures, proofing times and temperatures, conveyor speeds and changeover times--in short, every aspect of bakery production. The same PLCs also capture specific process data for relay back to the host computer. The entire system communicates using the same protocol; complete interconnectivity assures compatibility throughout the plant."), *the feedback comprising information including one or more of the following:*

  (a) ingredients mixing and loading times expressed as a machine efficiency;

  (b) individual batch mixing times;

  (c) total mixing time;

  (d) total lead time;

(e) total time to produce a production run;

(f) failed production; and

(g) amendments made to the production run.

26. Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Walser et al (US-PAT-NO: US 6,560,501 B1), in view of Bush et al. (Pepperidge Farm's "Project Freshness." Integrated process controls plus automated ingredient and package handling cut waste, save time and enable paired Lakeland, Fla., bread and biscuit plants to bake and ship the same day; Prepared Foods , v158 , n2 , p122(3); Feb 1989), in view of Lowry et al (PGPUB-NO: US 2002/0001649 A1), and further in view of Abriam et al. (US-PAT-NO: US 5,933,353 A).

Claim 11: Abriam et al. (US-PAT-NO: US 5,933,353 A)

Wasler, in view of Bush, and further in view of Lowery discloses all the limitations of claim 1 as shown above. Wasler, in view of Bush, and further in view of Lowery does not disclose the following limitations, but Abriam, as shown, does:

- *wherein the method includes the further step of providing a schematic layout of pieces* (see at least abstract: “A job comprising multiple parts in various quantities is displayed textually as a job list of parts and quantities. The job is also displayed graphically in a scaled layout. In the scaled layout part icons corresponding to each of the parts on the job list are superimposed on a work piece icon in an arrangement corresponding to a physical part layout … The processes also handle the scaling of the work piece icon and parts icon on the display in an arrangement corresponding to an actual physical layout for the job.” and column 2, lines 1-4: “Another object of the invention, is to provide a graphic display of a proposed layout for all the selected parts for a job superimposed on a background image of the work piece.”).

Wasler, in view of Bush, and further in view of Lowery disclose a production of bakery products and further discloses that in their making, dough products are cut and dropped onto a tray (Lowry, page 1, paragraph 0003). Abriam discloses computer aided machining, in particular, automated layout of parts for machining of jobs comprising multiple parts in variable quantities, but does not disclose layout of dough on baking trays prior to proving or baking. It would have been obvious to one of ordinary skill in

the art to incorporate the graphical job display, on a backround image of the work piece, as taught by Abriam with the bakery production run of Walser as doing so "…is a way to reduce the skill level associated with layout and setup of small quantity production runs." (Abriam, column 1, lines 57-59)

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Woodlard et al (US-PAT-NO: 6,234,665 B1) discloses that commercial bakery practice consists essentially of batch mixing of basic ingredients, forming the resultant mixture into shaped products, and baking the products. The particular ingredients used in the original batch mix, the range of operation necessary to form the product, and the baking temperature and conditions will vary from product to product, but in all cases the process starts with the batch mixing of basic ingredients;
- Valentino et al. (US-PAT-NO: 4,883,361 A) discloses an apparatus for processing of dough of a type that is designed to be utilized in preparation of back products such as bread and rolls. In addition, it discloses that production of dough for making of various types of bake products, particularly bread and roll type products, has traditionally utilized what is termed the batch type process. This process involves the forming of a predetermined quantity of dough which in bakeries for producing large quantities of the product may involve a batch that is of the order of 500 pounds. This dough, once it is mixed and blended, is then utilized by feeding it into apparatus that will mechanically divide the dough into the desired portions for forming of the particular product;
- datapax.com Datapax 2000-10-25 discloses bakery software;
- datapax.com DatapaxWholesaler 2000-10-25 discloses production a bread line module that prepares production schedules for mixers/dividers/molders/sliders and packaging.
- Malovany, Dan; “Start from the ground up”; Bakery Production and Marketing , v27 , n5 , p136(6); May 24 , 1992 discloses a computer that controls everything from batching and mixing to baking and packaging on highly automated bread and bun lines. Simultaneously, the system handles 8,000 inputs and outputs. It helps crank out production schedules that detail batch frequency and size, product handling, product volume and estimated production time down to the minute.

Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **Doron D. Fields** whose telephone number is **571.270.3107.** The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **BETH BOSWELL** can be reached at **571.272.6737**.

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08 Aug 2008

/Beth V. Boswell/
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